DOCUMENT RESUME

ED 389 584 SE 057 228

AUTHOR Walen, Sharon B.; Williams, Steven R.
TITLE Heidegger and Hall Duty: Using Vignettes of Teacher's Daily Practice To Triangulate Observational Data.
PUB DATE Oct 95
NOTE 9p.; Paper presented at the Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (17th, Columbus, OH, October 21-24, 1995). For entire conference proceedings, see SE 057 177.
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Case Studies; *Data Collection; *Mathematics Instruction; *Mathematics Teachers; *Research Methodology; Secondary Education; Secondary School Mathematics
IDENTIFIERS *Reform Efforts; *Vignettes

ABSTRACT

Little is known about teachers' reflections on current reform efforts in real classrooms (Cuban, 1993). This study describes methodology and data on teachers' efforts to implement a 4-year secondary mathematics reform curriculum at a statewide level. The methodology uses vignettes in an attempt to retain the best part of careful observational case-study techniques while bowing to practical pressures of dealing with hundreds of teachers in as many sites. As such, it allows the authors to triangulate observational data, to affirm working hypotheses based on that data, and to provide teachers with a rich opportunity for reflection on classroom practices. (Author)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED 389 584

Heidegger and Hall Duty: Using Vignettes of Teacher's Daily Practice to Triangulate Observational Data

Sharon B. Walen and Steven R. Williams

Paper presented at the Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education

(17th PME-NA, Columbus, OH, October 21-24, 1995)

PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Douglas T Owens

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

SE057228

BEST COPY AVAILABLE

HEIDEGGER AND HALL DUTY: USING VIGNETTES OF TEACHER'S DAILY PRACTICE TO TRIANGULATE OBSERVATIONAL DATA

Sharon B. Walen, Montana State University
Steven R. Williams, Brigham Young University

Little is known about teachers' reflections on current reform efforts in real classrooms (Cuban, 1993). This study describes methodology and data on teachers' efforts to implement a four-year secondary mathematics reform curriculum at a statewide level. The methodology uses vignettes in an attempt to retain the best part of careful observational case-study techniques while bowing to practical pressures of dealing with hundreds of teachers in as many sites. As such, it allows us to triangulate observational data, to affirm working hypotheses based on that data, and to provide teachers with a rich opportunity for reflection on classroom practices.

Objectives

The importance of reflection to changing teaching practice is widely recognized. Indeed, the model of teachers as *reflective practitioners* (Schon, 1987) makes it clear that reflection on the practice of teaching is vital to professional growth. Also important is the use of reflection as a data source in the study of teaching. This is true especially as we attempt to understand the everyday world of the teacher and how that world transforms. The coupling of teachers' reflections with observational data is a valuable means of triangulation.

Recognizing the importance of reflection does not obviate the theoretical and practical problems connected with its use as a data source. The act of reflection is necessarily distanced from the acts reflected on and is thus affected by memory, emotions, and various *subjective* variables. An important question, then, is how best to stimulate reflection on practice to obtain maximally useful results. With this in mind, the purposes of this paper are fourfold: 1) Introduce a method of stimulating reflection on practice that we find particularly compelling, 2) Outline its advantages, 3) Report particularly insightful results obtained by the method, and 4) Analyze the reasons for the method's success by way of an interpretive theoretical model.

Theoretical Framework

We base our analysis of reflection in general on Heidegger's work and more recent writings in psychology and in education (for a complete discussion see Williams, 1993). We suggest that the primary mode of human functioning is a kind of unreflective being-in-the-world, a mode of existence that Heidegger calls the ready-to-hand. To use his favorite example, when we are hammering, we are not reflecting on the hammer; indeed, we are hardly aware of it. Rather, we are immersed in hammering. From this fundamental mode, we can move to a more reflective mode if, for example, the hammer breaks. We then focus on the ham-

SE057228

mer, seeing it as broken, and attempt to replace it or work around it. This mode is called the unready-to-hand and suggests a kind of reflection still embedded in the context of the larger program of which hammering was part. A more abstract reflection can be performed when, for example, one wishes to design a hammer or to choose a particular kind of hammer for a job. Here, more than in the other two modes, the hammer emerges as an object. Then, abstract knowledge about the hammer (weight, balance, etc.) gains salience. This most abstract mode is called the present-at-hand and represents the mode in which much of what we would call reflection occurs.

Reflection is most often provoked by a breakdown in the normal, ready-to-hand flow of everyday coping. To reflect, we must step out of that deeply contextual mode, but as we do so, the original actions on which we reflect begin to recede. As we enter the unready-to-hand mode, salient features of our actions and environment emerge for reflection. The context of the original actions remains important as background; the reflection remains oriented toward ongoing activity. If the breakdown is more fundamental, salient features emerge and are dealt with as separated from their original contexts–as abstract objects of reflection. The original acts then become separated from their context. This characterizes the present-at-hand mode.

Our problem, then, is to encourage reflection that stays oriented toward practice, as in the unready-to-hand mode, away from the abstract knowledge of the present-at-hand. We would ideally deal with individual teachers contemplating their daily practice. However, when more systemic reform is being studied, involving many teachers across multiple sites, the burden of collecting data in this way proves insupportable. We describe below a methodology that, although taking steps away from typical case study techniques, remains sensitive to the underlying ontology of reflection we have described.

Methods and Data Sources

Although our philosophical framework mandated the gathering and analysis of rich ethnographic data, the size of our project and the multiple sites involved presented a particularly intriguing challenge. We met this challenge by modifying and merging current research methods. The following section presents the story of how we used observation to identify issues, vignettes to set the stage for a discussion of important themes, and the resulting discussions to validate the nature of the issues.

Previous data from 16 participant observers' visits provided us with richly detailed snapshots of 35 individual classrooms. Although rich, the data did not result in common threads necessary to weave a picture across reform classrooms. In an attempt to find these threads, the observers designed and employed a semi-structured observation form. Observers indicated this allowed them the individual freedom to make original insightful observations yet assisted them to focus on curricular objectives essential for implementation of the reform curriculum.

As analysis of the data gathered using the semi-structured form began to outline common themes across this subset of reform classrooms (assessment, communication, and time management), we felt the need to triangulate the themes within the larger group of participating teachers. We began thinking about how classroom vignettes enhance communication and, with this in mind, we wrote 4 vignettes with the themes found in the observational data as story-lines. Several revision cycles occurred before the participant observers agreed that each vignette told a valid classroom story. During the write and revise cycle, we took care not to present the stories as *moral lessons*. We wanted **all** teachers in **all** stages of reform to willingly talk about issues and be comfortable with their currently held beliefs. We also remained sensitive to the fact that many reform teachers previously taught using traditional methods and currently worked with and respected teachers preferring to use traditional methods. The vignettes did not portray mathematics education reform as *us against them* but rather as an opportunity to debate issues.

During a two-day grant sponsored teacher meeting, 115 teachers from across the state read and discussed the 4 vignettes. The 16 original classroom observers facilitated each teacher discussion group and recorded individual teacher comments. Other group members also provided written comments and documentation of consensus on primary issues. Triangulation of these data validated the importance of the themes presented in the vignettes.

Vignettes and Teachers' Comments on Key Reform Issues

The following discussion revolves around 1 of the 4 vignettes. Although each vignette allowed us to validate a common theme, this particular discussion illustrates the richness of the data. During these discussions, teachers interpreted issues both individually from their personal context of teaching and generally from their common knowledge of what it is to teach. The meaning and significance of the themes became clear as each group assisted the *vignette-teachers*.

Vignette #1: Assessment and Communication Issues in Reform Classrooms

The vignette in Figure 1 focuses on 2 of the 3 central reform themes–assessment and communication. We had heard teachers across the state say that new forms of assessment were more difficult to implement than the reform curriculum, itself. Many teachers indicated they had used the integrated curriculum for 2 years without changing classroom assessment. They stated that they were beginning to recognize the mismatch between traditional assessment and the reform curriculum. Comments from these teachers included, "I know that I need to change how I assess, but I can only do one thing at a time. I'm working on the curriculum and technology. I'll get to the assessment next." One teacher commented, "OK, I have the kids writing journals. Now I don't know what to do with them [the journals]." Grading was a genuine concern. Generally, teachers using alternate assessment did not recognize the value of their efforts or express confidence with their results

but repeatedly requested assistance. The vignette-teacher modeled these teachers' views.

Beth Davis looked up, startled for a second at the loud crackling voice on the intercom. "Yes, this is Ms. Davis."

"Sorry to interrupt, Ms. Davis, but could you please stop in the main office before you leave tonight?"

"Yes." At that note, Beth turned toward the clock surprised to see that an hour had gone by since the last of the Level 1 students had left her room for the day and she had begun to read the student portfolios. With an inward smile, Beth thought; The projects are really well done. Even though there was a wide range of skills in her class this year, Beth had decided to require the students to choose research projects. They seemed to like their first projects, but their second projects were fantastic, especially Faith's. She seemed to have real talent.

Beth gathered a few of the student projects to finish reading, slipped on her coat, and headed toward the office.

"Ms. Davis, the principal, Ms. Waters, wishes to make an appointment with you tomorrow during your free period. Faith Old Elk's father will be here. He has called and expressed concern about Faith's math work. Will 10:15 be OK?" Beth finished discussing the details of tomorrow's meeting and walked to her car.

"Good morning, Ms. Davis. Please sit down." Ms. Waters' voice was low and friendly, but Beth still felt uneasy. "So, Mr. Old Elk, you said over the phone that you would like to talk to us about Faith's math work?"

Mr. Old Elk looked uncomfortable. "Yes, I did. You know that Faith has always done well in math. This is hard for me to say. Faith says she doesn't know what math she is learning. Her cousin spent the weekend with us and his book looks like the one I had in high school. We want Faith to be able to go to college. She has to do well on the tests for college so she can get a scholarship. Faith says you are giving her an A for this quarter in math, but I'm afraid that you're not preparing her for college. Faith spent the last month writing about the traditional ways to tan hides and comparing that to chemical tans for her math project. But she couldn't help her cousin with his algebra homework until she read the whole chapter in his book. Faith has always been better than him at math but now he's ahead of her. What does her A mean, Ms. Davis? Will she be able to do well in college math?"

Later that evening as Beth *replayed* that morning's conversation in her mind, she started to wonder about the changes she had made in her mathematics classroom. How can I be sure I'm really right about Faith's A? Will Faith really do OK? What do I really know about Faith's math skills and concepts?

What is the problem? Whose problem is it? What should Beth do next?

Figure 1. Vignette #1: What's an A?

It did not surprise us that every teacher-discussion group validated student assessment as a primary issue. Assessment and grading were genuine concerns across the state. During the discussions, teacher groups validated another key issue related to classroom assessment; they were afraid that students' scores on standardized tests would not reflect what their students really knew. If this were to

happen, colleges would not be able to assess the depth of their students' understanding. Teachers expressed frustration with *the way things were* and offered solution strategies ranging from supplementing with more drill-and-practice (so the curriculum resembled traditional texts) to *teaching to* standardized tests. "We ought to just take 2 days out and teach them the standardized test–teach them to take the test," commented one teacher.

However, these solutions did not satisfy the groups. They were comfortable with what they currently saw their students learning and doing. The teachers valued the improvements they saw in their students' problem solving skills, abilities to use technology, and attitudes towards mathematics. After a brief discussion, teachers stopped talking about returning to traditional teaching and started talking about challenging the standardized testing structure. The following 4 comments represents their suggestions: 1. "Will letters from teachers help on scholarships and college entrance?"; 2. "Can we start sending portfolios?"; 3. "Are these tests ACT SAT and placement tests valid anyway?"; and 4. "Our system is in a transition and integrated math is strong on teaching kids *how* to learn. We can show them that." As teachers continued to talk about the values they saw in using the integrated mathematics curriculum, discussions turned to communication as critical to *fixing* problems.

Teachers identified two areas of communication needing improvement–between high schools and universities and between parents and teachers. In the high-school-university discussions, teachers talked about how they had previously followed colleges and universities lead. University calculus course content previously drove many high school curriculum choices. Now they were not so certain that was going to continue to work. One teacher expressed her frustration, "I don't know what I'm preparing my students for with all the changes in calculus. Students can't drive those changes. We need to help people at the university. We need to start talking to them–telling them what we are doing." These teachers wanted to *align* the two curriculums rather than to continue to passively feed their students into the university. In the parent-high-school discussions, teachers stated that the vignette-teacher needed to improve communication with parents. This teacher's comment summarized the discussion, "Resistance to change–parents are just resistant to change." Time changes attitudes. Communication with community is a must. That's when we all get in trouble–failing to communicate." Within this segment of the discussion, several teacher groups validated proactive information sessions with parents, community, and other teachers. They discovered that all the teachers whose overall interaction with parents had been positive had all had parent nights. Therefore, parent night was a critical way to avoid problems. Teachers shared their plans and experiences. Several teachers volunteered to drive hundreds of miles to help others plan and present parent night.

In summary, the teacher discussions began in a passive mode with acceptance of the current situations and ideas for fitting into the existing system then quickly progressed to challenging the system. As individuals became aware of similarities in their ideas, teachers expressed confidence in their ability to find ways to change the system. Teachers genuinely enjoyed the opportunity that vignettes provided

for discussion. One teacher summed it up by saying, "This let us have lots of good discussion about situations similar to the vignette and how we handled it." Another teacher added, "Yes, and it let us find out that we weren't alone in our concerns." This discussion confirmed, explained, and triangulated 2 of the themes key to reform teaching–assessment and communication.

Implications of the Method

Teachers' discussions and solutions reflected a personalized, contextual richness. We believe the methodology facilitated this in two ways. First, the vignettes focused on familiar situations of practice for the teachers. These were not the same as engaging in practice, but oriented the teachers toward a ready-to-hand mode. The vignettes also provided a safe forum for discussion of problems they recognized, yet were previously unwilling or unable to offer for discussion. One individual commented after the conference that she had not previously talked about her problems because she thought of them as "specific to my own classroom and not important enough to take up the valuable conference time." However, she now recognized the problems as valid and a valuable forum for discussion.

Second, the vignettes dealt with breakdowns in practice calling for solutions that make sense within the context of that practice. This oriented teachers toward an unready-to-hand mode and enabled more context-sensitive reflection. We might say that the vignettes supported reflection on action that was largely oriented toward reflection in action. One teacher commented during a break in the group discussions, "I've seen myself in each of the discussions. These are problems that I've had. [Laughs] I wonder what will be in the next 2 vignettes that we are going to read after break." She identified with the reform efforts in the vignettes. One facilitator who attempted to direct the discussion said, "These teachers saw and discussed what was of concern to them in each vignette and wouldn't be moved." This data indicated the vignette-teacher's voice deeply resonated with the individuals composing the discussion groups. After the group discussions, 7 individual teachers said that although we had not visited them, they still felt the stories were from their classrooms. This confirmatory data validated the practice-oriented nature of the vignette topics.

Although the problems described in the vignettes were not the teachers' own, they showed considerable engagement with the issues and felt compelled to find solutions. Again, we feel that this was supported by the methodology. Teachers in the study were sensitive to the plight of the vignette-teachers and seemed to be called out by some sense of responsibility or camaraderie to deal with their problems. Specific data indicated that these teachers valued the vignette-teacher's situations and identified with the teachers in the stories. Although we informed the teachers that only the issues were real, they referred to the vignette-teachers as actual teachers needing advice. As they assisted the vignette-teachers, they found themselves reflecting on their classrooms. To return to Heidegger's example, the teachers seemed to engage willingly in dealing with another teacher's broken hammer–even though that teacher was not real.

As efforts increase nationwide to reform the way mathematics is taught and learned, issues clearly center around individual teacher's practice. This methodology allowed us to triangulate observational data and affirm working hypotheses. Most importantly, this methodology provided rich opportunities for teachers to engage in reflective activity and to support each other's reform efforts.

References

Cuban, L. (1993) The lure of curricular reform and its pitiful history. *Phi Delta Kappan*, 75(2), 181-85.

Schon, D.A. (1987) *Educating the reflective practitioner:* San Francisco: Jossey-Bass.

Williams, S.R. (1993) Mathematics and being in the world: Toward an interpretive framework. *For the Learning of Mathematics, 13*(2), 2-7.